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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,519	08/01/2006	Georg N. Duda	4385-053065	1658
28289 7590 03/11/2010 THE WEBB LAW FIRM, P.C. 700 KOPPERS BUILDING 436 SEVENTH AVENUE PITTSBURGH, PA 15219			EXAMINER DOUGHERTY, SEAN PATRICK	
			ART UNIT 3736	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/553,519

Applicant(s)

DUDA ET AL.

Examiner

SEAN P. DOUGHERTY

Art Unit

3736

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 26-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/22)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This is the FINAL Office action based on the 10/553519 application filed 08/01/2006. Claims 26-50 are currently pending and have been fully considered below. The previous rejections of the claims are maintained.

Specification

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 26-50 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. Where the individual musculoskeletal strains determined from musculoskeletal parameters of a patient including "stretching in bone, a muscle, a cartilage, a tendon, a ligament, a joint, or a connective tissue that results in injury, weakening, or overexertion of a joint or tissue of the musculoskeletal system" is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

"Bone measurements and their densities, the points of gravity of the bones and other inertia parameters", "parameters" and "dimensions" of bone are established in paragraph 31 of the disclosure of the printed publication of the instant application, however, the disclosure is silent to any "stretching of bone". Therefore, the disclosure does not enable determining individual musculoskeletal strains from the musculoskeletal parameters that involved the "stretching of bone" because such has not been disclosed in the disclosure of the instant application.

"Interventions on ligament structures" is established in paragraph 9 of the disclosure of the printed publication of the instant application, however, the disclosure is silent to any "stretching" of "ligaments". Therefore, the disclosure does not enable determining individual musculoskeletal strains from the musculoskeletal parameters that involved the "stretching" of "ligaments" because such has not been disclosed in the disclosure of the instant application.

"Individual musculoskeletal parameters of the patient are determined first, particularly by automatically measuring anthropometric parameters and/or the position and/or alignment of joints" is established in the abstract of the instant application, however, the disclosure is silent to any "stretching" of "joints". Therefore, the disclosure does not enable determining individual musculoskeletal strains from the musculoskeletal parameters that involved the "stretching" of "joints" because such has not been disclosed in the disclosure of the instant application.

The disclosure is silent to the musculoskeletal parameters that determined by way of the "muscle", "cartilage", "tendon" and "connective tissues". Additionally, the

disclosure is silent to the "stretching" of any of the "muscle", "cartilage", "tendon" and "connective tissues". Therefore, the disclosure does not enable determining individual musculoskeletal strains from the musculoskeletal parameters that involved the "stretching" of any of the "muscle", "cartilage", "tendon" and "connective tissues" because such has not been disclosed in the disclosure of the instant application.

The disclosure is silent to any type of any stretching of "a bone, a muscle, a cartilage, a tendon, a ligament, a joint, or a connective tissue" that results in "injury, weakening, or overexertion of a joint or tissue of the musculoskeletal system". Examiner is unable to determine any type of stretching that results in injury, weakening, or overexertion of a joint or tissue of the musculoskeletal system because such has not been disclosed in the disclosure of the instant application. The disclosure is also silent to a musculoskeletal "system".

Claims 26-50 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

"Where the individual musculoskeletal strains are a stretching in a bone, a muscle, a cartilage, a tendon, a ligament, a joint, or a connective tissue of the musculoskeletal system of the patient that results in injury, weakening, or overexertion of a joint or tissue of the musculoskeletal system" in claim 1 is considered new matter

by Examiner as such subject matter was not described in the specification at the time the application was filed.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 26, 27, 31-38 and 40-50 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6,205,411 to DiGioia, III et al. (hereinafter "DiGioia").

Regarding claim 26, DiGioia discloses a method for simulating musculoskeletal strains on a patient for monitoring surgical the method comprising the steps of:

(a) determining individual musculoskeletal parameters of the patient (interventions ("pre-operative planner 12" col. 5, ll. 63-67),

(b) automatically determining the individual musculoskeletal strains from the determined musculoskeletal parameters of the patient (col. 5, ll. 67 to col. 6, ll. 5), wherein the individual musculoskeletal strains are a stretching in a bone, a muscle, a cartilage, a tendon, a ligament, a joint, or a connective tissue of the musculoskeletal system of the patient that results in injury, weakening, or overexertion of a joint or tissue of the musculoskeletal system - note that movement and motion of a joint would induce stretching of bone, a muscle, a cartilage, a tendon, a ligament, a joint, or a connective tissue of the musculoskeletal system,

(c) for the automatic determination of the individual musculoskeletal strains, comparing the individual and varied musculoskeletal parameters with musculoskeletal reference parameters filed in a strain database constructed with empirical data (col. 7, lines 48-50), and musculoskeletal reference strains corresponding to the musculoskeletal reference parameters are determined as the individual musculoskeletal strains (col. 7, lines 19-33), the musculoskeletal reference parameters being present as discrete values in the strain database (col. 5, line 67 to col. 6, lines 5; col. 6, lines 9-12; col. 7, lines 36-40; col. 7, lines 54-57) and the musculoskeletal reference parameters being compared with the individual musculoskeletal parameters by means of functional

relationships (col. 7, lines 46-63) and (d) evaluating the individual musculoskeletal strains in respect of at least one target criterion (col. 7, lines 27-29).

Regarding claim 27, DiGioia discloses the method as claimed in claim 26, further comprising the steps of (e) varying at least one of the individual musculoskeletal parameter (col. 7, lines 34-36) to obtain a varied musculoskeletal parameter (col. 7, lines 46-50), (f) subsequently automatically determining the individual musculoskeletal strains taking into consideration the at least one varied musculoskeletal parameter (col. 7, lines 19-33) and (g) subsequently evaluating the individual musculoskeletal strains in respect of the at least one target criterion (col. 7, lines 48-50).

Regarding claim 31, DiGioia discloses the method as claimed in claim 27, wherein the variation of the individual musculoskeletal parameters in step e. is carried out taking into consideration predefinable data for implants (col. 7, lines 27-33).

Regarding claim 32, DiGioia discloses the method as claimed in claim 26, wherein the individual musculoskeletal strains are calculated from the determined individual musculoskeletal parameters (col. 7, lines 15-18).

Regarding claim 33, DiGioia discloses the method as claimed in claim 32, wherein a biomechanical and/or a mathematical model is used as a basis for the calculation of the individual musculoskeletal strains (col. 7, lines 19-22).

Regarding claim 34, DiGioia discloses the method as claimed in claim 33, wherein the biomechanical and/or mathematical model is adapted to the individual musculoskeletal parameters (col. 7, lines 22-26).

Regarding claim 35, DiGioia discloses the method as claimed in claim 33, wherein the biomechanical and/or mathematical model is chosen on the basis of the determined individual musculoskeletal parameters from at least one database (col. 7, lines 27-45).

Regarding claim 36, DiGioia discloses the method as claimed in claim 34, wherein the individual musculoskeletal strains are calculated with the aid of a musculoskeletal model taking into consideration the individual patient anatomy (col. 7, lines 11-18).

Regarding claim 37, DiGioia discloses the method as claimed in claim 26, wherein the individual musculoskeletal strains are visualized for evaluation (col. 6, lines 17-21).

Regarding claim 38, DiGioia discloses the method as claimed in claim 26, wherein the individual musculoskeletal strains are presented on the basis of an anatomical model, particularly in graph form and/or numerically (col. 6, lines 50-61; col. 7, lines 11-22).

Regarding claim 40, DiGioia discloses the method as claimed in claim 26, wherein the individual musculoskeletal parameters of the patient are determined by measurements (col. 6, lines 50-54).

Regarding claim 41, DiGioia discloses the method as claimed in claim 40, wherein at least one of the individual musculoskeletal parameters is measured automatically (col. 6, lines 55-58).

Regarding claim 42, DiGioia discloses the method as claimed in claim 26, wherein individual movement parameters, particularly gait parameters, are determined (col. 7, lines 19-33), and these are used for the automatic determination of individual musculoskeletal strains (col. 7, lines 46-63).

Regarding claim 43, DiGioia discloses the method as claimed in claim 42, wherein the individual gait parameters are determined from personal data stored in a database and/or are recorded individually for one person (col. 7, lines 48-63).

Regarding claim 44, DiGioia discloses the method as claimed in claim 26, wherein the position and/or orientation of joints are used for a navigation system for computer-assisted surgery and/or the data from a navigation system are used for computer-assisted surgery (col. 6, lines 24-48).

Regarding claim 45, DiGioia discloses a device for evaluating musculoskeletal strains on a patient, with means for carrying out the method as claimed in claim 26 (apparatus, 10).

Regarding claim 46, DiGioia discloses a movement analysis system coupled to the device as claimed in claim 45 (col. 6, lines 24-48).

Regarding claim 47, DiGioia discloses a navigation system for computer-assisted surgery for carrying out the method as claimed in claim 26 (col. 6, lines 24-48).

Regarding claim 48, DiGioia discloses a method as claimed in claim 26, wherein the musculoskeletal parameters are automatically measured anthropometric parameters (col. 7, lines 1-10).

Regarding claim 49, DiGioia discloses a method as claimed in claim 26, wherein the target criterion include contact forces, degree of joint movement, fragment movements of a fracture or any combination thereof (col. 7, lines 46-50).

Regarding claim 50, DiGioia discloses a method as claimed in claim 26, further comprising the step of automatically deriving anthropometric parameters from a system for computer-assisted surgery (col. 7, lines 46-63).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 28, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,205,411 to DiGioia, III et al. (hereinafter "DiGioia").

Regarding claim 28, DiGioia discloses the method as claimed in claim 27, wherein a specific target value of at least one target criterion is reached. DiGioia does

not appear to explicitly disclose wherein step (e) to (g) are repeated until a specified target value of at least one target criterion is reached. However, it would have been obvious to one of ordinary skill in the art to repeat the steps e. to g. until a specified target value of at least one target criterion is reached as this process is inherent as disclosed by DiGioia. DiGioia establishes the variation of size and orientations of implant components along with the variation of test positions (col. 7, lines 34-36) and simulating various conditions to calculate a range of motion for each condition (col. 7, lines 46-48), comparing each value to a predetermined range of motion to determine an optimized calculated range (col. 7, lines 48-53). It is inherent from the disclosure of DiGioia that steps e. to g. are repeated as this would be done to determine the calculated range from each of the simulations of various conditions to determined the optimized range.

Regarding claim 29, DiGioia discloses the method as claimed in claim 28, wherein the individual and varied musculoskeletal parameters corresponding to the target value are output on an output unit, stored in a storage unit and/or transferred to a computer-assisted surgery system and/or to a surgical navigation system (col. 6, lines 24-48).

Regarding claim 30, DiGioia discloses the method as claimed in claim 28, wherein the individual and varied musculoskeletal parameters corresponding to the target value serve as a basis for planning a surgical intervention, the positioning of components or the decision regarding the removal of temporary implants (col. 6, lines 24-48).

Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,205,411 to DiGioia, III et al. (hereinafter "DiGioia") US 2005/0203504 to Wham et al (hereinafter "Wham").

Regarding claim 39, DiGioia discloses the method as claimed in claim 26, wherein by evaluation of the individual musculoskeletal strains, a rehabilitation process is evaluated and/or managed (col. 6, lines 21-23). DiGioia does not appear to disclose the method as claimed in claim 26, wherein by evaluation of the individual musculoskeletal strains, a rehabilitation process is evaluated and/or managed, particularly by means of Internet access. However, Wham, a reference in analogous art discloses the method as claimed in claim 26, wherein by evaluation of the individual musculoskeletal strains, a rehabilitation process is evaluated and/or managed, particularly by means of Internet access (§0061).

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of DiGioia and Wham before him or her to modify the evaluation and/or managing of the rehabilitation process of DiGioia to be evaluated and/or managed by means of Internet access of Wham. The motivation for doing so would have been to include instrument operating information, mappings, diagnostic information, algorithms or programs which are updated on a regular basis and downloaded to the generator as needed during surgery (Wham: §0061) which can be performed remotely from the surgical theater (DiGioia: col. 6, lines 21-23).

Response to 37 CFR 1.132 Affidavits

The 37 CFR 1.132 affidavits filed by the Applicant have been fully considered by the Examiner.

The affidavits under 37 CFR 1.132 filed 12/22/2009 are insufficient to overcome the rejection of claim 26-50 based upon the evidence as set forth in the last Office action because:

The Examiner notes a 1.132 affidavit may include evidence of the state of the art, the level of skill in the art, and the beliefs of those skilled in the art. See, e.g., *In re Oelrich*, 579 F.2d 86, 91-92, 198 USPQ 210, 214 (CCPA 1978). However, the weight to give an affidavit depends upon the amount of factual evidence the affidavit contains to support the conclusion of enablement. *In re Buchner*, 929 F.2d 660, 661, 18 USPQ2d 1331, 1332 (Fed. Cir. 1991) (expert's opinion on the ultimate legal conclusion must be supported by something more than a conclusory statement).

The Applicant has merely mentioned the words "strain" and "musculoskeletal" in the disclosure of the instant application. The Examiner believes it is unreasonable to limit the phrase "strain" to encompass a specific type of strain such as "stretching" and limit the term musculoskeletal to extreme specifics such as "bones, muscles, cartilage, tendons, ligaments, joints, and/or connective tissue" without additional evidence. The Examiner notes that a skilled artisan, when reading the disclosure of the instant application, would not limit the limitation "strain" to encompass only "stretching", nor would a skilled artisan limit the phrase "musculoskeletal" to encompass the very specific

limitations of each of "bones, muscles, cartilage, tendons, ligaments, joints, and/or connective tissue" because the Applicant has failed to establish such definitions otherwise. The Examiner notes it is well known in the art that the term could be broader than as described by the Applicant, as evidenced below by several definitions of the phrases from various medical dictionaries:

Definitions of strain:

strain (strān) 1. to overexercise. 2. excessive effort or exercise. 3. an overstretching or overexertion of some part of the musculature. 4. to filter. 5. change in the size or shape of a body as the result of an externally applied force. 6. a group of organisms within a species or variety, characterized by some particular quality. Dorland's Medical Dictionary for Health Consumers. © 2007 by Saunders, an imprint of Elsevier, Inc. All rights reserved.

strain (Etymology: ME), streinen 1 v, to exert physical force in a manner that may result in injury, usually muscular. Mosby's Medical Dictionary, 8th edition. © 2009, Elsevier.

strain, n 1. a deformation induced by an external force. Mosby's Dental Dictionary, 2nd edition. © 2008 Elsevier, Inc. All rights reserved.

Definitions of musculoskeletal:

musculoskeletal /mus-cu-lo-skel-e-tal/ (-skel'ē-tl) pertaining to or comprising the skeleton and muscles. Dorland's Medical Dictionary for Health Consumers. © 2007 by Saunders, an imprint of Elsevier, Inc. All rights reserved.

mus-cu-lo-skel-e-tal (adj.) Relating to or involving the muscles and the skeleton. The American Heritage® Medical Dictionary Copyright © 2007, 2004 by Houghton Mifflin Company. Published by Houghton Mifflin Company. All rights reserved

musculoskeletal pertaining to muscles and skeleton. Saunders Comprehensive Veterinary Dictionary, 3 ed. © 2007 Elsevier, Inc. All rights reserved

The Examiner notes the Applicant has only provided a conclusory statement without secondary factual evidence. While secondary evidence is not required, such would provide further support of the conclusion of enablement. The Applicant is encouraged to provide evidence other than their own opinion to demonstrate that the disclosure enables the claimed invention.

The Examiner notes an affidavit must commensurate in scope with the claimed invention. The Examiner respectfully notes any mention in the affidavit of a "musculoskeletal system" does NOT commensurate in scope with the claimed invention. The claimed invention is drawn to "musculoskeletal strains". The invention is not drawn towards a "musculoskeletal system" as a whole.

The Examiner has weighted all the evidence before him, including the specification and the new evidence as set forth in the affidavits supplied by the Applicant with evidence, the evidence being a statement as to how a skilled artisan would define the terms "strain" and "musculoskeletal". 37 CFR 1.132 is insufficient to

overcome the rejection of the claims. In view of the foregoing, when all of the evidence is considered, the totality of the rebuttal evidence of nonobviousness fails to outweigh the evidence of obviousness.

Response to Arguments

Applicant's arguments filed 12/22/2009 have been fully considered but they are not persuasive.

With respect to the rejection of claims 26-50 rejected under 35 U.S.C. 112, first paragraph, for lack of enablement, the Applicant argues at pages 2 of the arguments that the statements by Dr. Wentz and Dr. Südhoff overcome the rejection. The Examiner disagrees and respectfully refers the Applicant to the Examiner arguments presented in the Response to the 37 CFR 1.132 affidavit, above.

With respect to the rejection of claims 26, 27, 31-38 and 40-49 rejected under 35 U.S.C. 102(b), as being anticipated by DiGioia, III et al., the Applicant argues at pages 3-4 of the arguments that the Examiner is simply "pointing" to a comparison without regard to the other limitations of the claims. The Examiner disagrees and respectfully submits that Examiner has considered the each aspect of the claims. If the Applicant believes certain limitations are not addressed, it is respectfully requested that the Applicant *specifically* address the limitations. The Examiner cannot further address the Applicant's arguments, because the Examiner has not been provided an argument to respond to. Furthermore, the Applicant argues that DiGioia III et al. does not disclose the claimed invention and refers the Examiner to Section 4 of the respective

Declarations. The Examiner has fully considered the Declarations and respectfully refers the Applicant to the Examiner arguments presented in the Response to the 37 CFR 1.132 affidavit, above.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN P. DOUGHERTY whose telephone number is (571)270-5044. The examiner can normally be reached on Monday-Friday, 9am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (571) 272-4726. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3736

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sean P. Dougherty/
Examiner, Art Unit 3736

/Max Hindenburg/
Supervisory Patent Examiner, Art Unit 3736